

AMENDMENT AND RESPONSE

Serial Number: 09/227,593

Filing Date: January 8, 1999

Title: ANTIMICROBIAL, BEVERAGE COMPATIBLE CONVEYOR LUBRICANT

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of 2.0:1 to 10.0:1 with respect to quaternary ammonium antimicrobial agent, which is a linear quaternary ammonium antimicrobial agent.

4. The lubricant of claim 1 wherein sodium hydroxide is present in said lubricant.

5. The lubricant of claim 1 wherein a chelating agent for divalent cations is present in said lubricant.

C3
6. (AMENDED) The lubricant of claim 5 wherein said chelating agent comprises an [amine-type] aminoacetic acid [acetic] acid chelating agent.

7. (AMENDED) The lubricant of claim 1 wherein said aryl alkoxylated phosphate ester comprises a phenol phosphate ester wherein said phenol group is not substituted with alkyl groups.

8. The lubricant of claim 1 wherein the pH of the lubricant is less than 8.5.

9. The lubricant of claim 1 wherein the pH of the lubricant is between 4.5 and 8.0.

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10. (AMENDED) The lubricant of claim 1 comprising water, C₁₀₋₁₂ alkyl alkoxylated phosphate ester, 5 [EO] ethylene oxide units, EDTA, alkalating agent, didecyl dimethyl ammonium chloride, C₁₂₋₁₅ linear alcohol, and phenol ethoxylated phosphate ester.

C4
11. (AMENDED) A process for lubricating a conveyor used to transport containers, said process comprising applying a phosphate ester antimicrobial lubricant composition to the conveying surface of a conveyor, said composition comprising:

- a) an alkyl alkoxylated phosphate ester,
- b) an aryl alkoxylated phosphate ester,
- c) a quaternary ammonium antimicrobial agent, and
- d) water,

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a4 and then moving ~~containers~~ on said conveyor.

~~12. The process of claim 11 wherein said alkyl phosphate ester and said aryl phosphate ester are present in a weight to weight ratio of 1.5:1 to 10.0:1 with respect to the quaternary ammonium antimicrobial agent.~~

~~13. The process of claim 11 wherein the total weight of said alkyl phosphate ester and said aryl phosphate ester are present in a weight to weight ratio of 2.0:1 to 10.0:1 with respect to quaternary ammonium antimicrobial agent, which is a linear quaternary ammonium antimicrobial agent.~~

~~14. The process of claim 11 wherein sodium hydroxide is present in said lubricant.~~

~~15. The process of claim 11 wherein a chelating agent for divalent cations is present in said lubricant.~~

a5 ~~16. (AMENDED) The process of claim 15 wherein said chelating agent comprises an [amine-type acetic] aminoacetic acid chelating agent.~~

~~17. (AMENDED) The process of claim 11 wherein said aryl phosphate ester comprises a phenol phosphate ester wherein said phenol group is not substituted with alkyl groups.~~

~~18. The process of claim 11 wherein the pH of the lubricant is less than 8.5.~~

~~19. The process of claim 11 wherein the pH of the lubricant is between 4.5 and 8.0.~~

~~20. The process of claim 11 wherein said composition comprises water, C₁₀₋₁₂ alkyl phosphate ester, ethylene diamine tetraacetic acid or its salts, alkalating agent, didecyl dimethyl ammonium chloride, C₁₂₋₁₅ linear alcohol, and phenol ethoxylated phosphate ester.~~

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Please add the following new claims:

21. An antimicrobial, non-fatty acid conveyor lubricant comprising:

- a) an alkyl phosphate ester,
- b) an aryl phosphate ester,
- c) a quaternary ammonium antimicrobial agent, and
- d) water.

22. A process for lubricating a conveyor used to transport containers, said process comprising applying a composition to the conveying surface of a conveyor, said composition being free of fatty acid lubricant and comprising:

- a) an alkyl alkoxylated phosphate ester,
- b) an aryl alkoxylated phosphate ester,
- c) a quaternary ammonium antimicrobial agent, and
- d) water,

and then moving containers on said conveyor.

23. An antimicrobial conveyor lubricant consisting essentially of:

- a) an alkyl alkoxylated phosphate ester,
- b) an aryl alkoxylated phosphate ester,
- c) a quaternary ammonium antimicrobial agent, and
- d) water.

24. A process for lubricating a conveyor used to transport containers, said process comprising applying a composition to the conveying surface of a conveyor, said composition consisting essentially of:

- a) an alkyl alkoxylated phosphate ester,
- b) an aryl alkoxylated phosphate ester,
- c) a quaternary ammonium antimicrobial agent, and
- d) water,

and then moving containers on said conveyor.

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control
- ~~25. The lubricant of claim 1 wherein the total concentration of alkyl phosphate ester and aryl phosphate ester comprises 7-30% by weight of the lubricant and the quaternary ammonium antimicrobial agent comprises 1-5% by weight of the lubricant.~~
- ~~26. The lubricant of claim 21 wherein the total concentration of alkyl phosphate ester and aryl phosphate ester comprises 7-30% by weight of the lubricant and the quaternary ammonium antimicrobial agent comprises 1-5% by weight of the lubricant.~~
- ~~27. The lubricant of claim 23 wherein the total concentration of alkyl phosphate ester and aryl phosphate ester comprises 7-30% by weight of the lubricant and the quaternary ammonium antimicrobial agent comprises 1-5% by weight of the lubricant.~~
- ~~28. The process of claim 11 wherein the total concentration of alkyl phosphate ester and aryl phosphate ester comprises 7-30% by weight of the lubricant and the quaternary ammonium antimicrobial agent comprises 1-5% by weight of the lubricant.~~
- ~~29. The process of claim 22 wherein the total concentration of alkyl phosphate ester and aryl phosphate ester comprises 7-30% by weight of the lubricant and the quaternary ammonium antimicrobial agent comprises 1-5% by weight of the lubricant.~~
- ~~30. The process of claim 24 wherein the total concentration of alkyl phosphate ester and aryl phosphate ester comprises 7-30% by weight of the lubricant and the quaternary ammonium antimicrobial agent comprises 1-5% by weight of the lubricant.~~

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on August 3, 1999, and the references cited therewith.

Objection to the Specification

The Office Action asserts on paragraph 2 that the numerical limitations of claims 2, 3, 12 and 13 are not found in the specification. Applicants note that literal antecedent basis for those specific limitations are found on page 9, lines 3-14. Those limitations are, in fact, literally